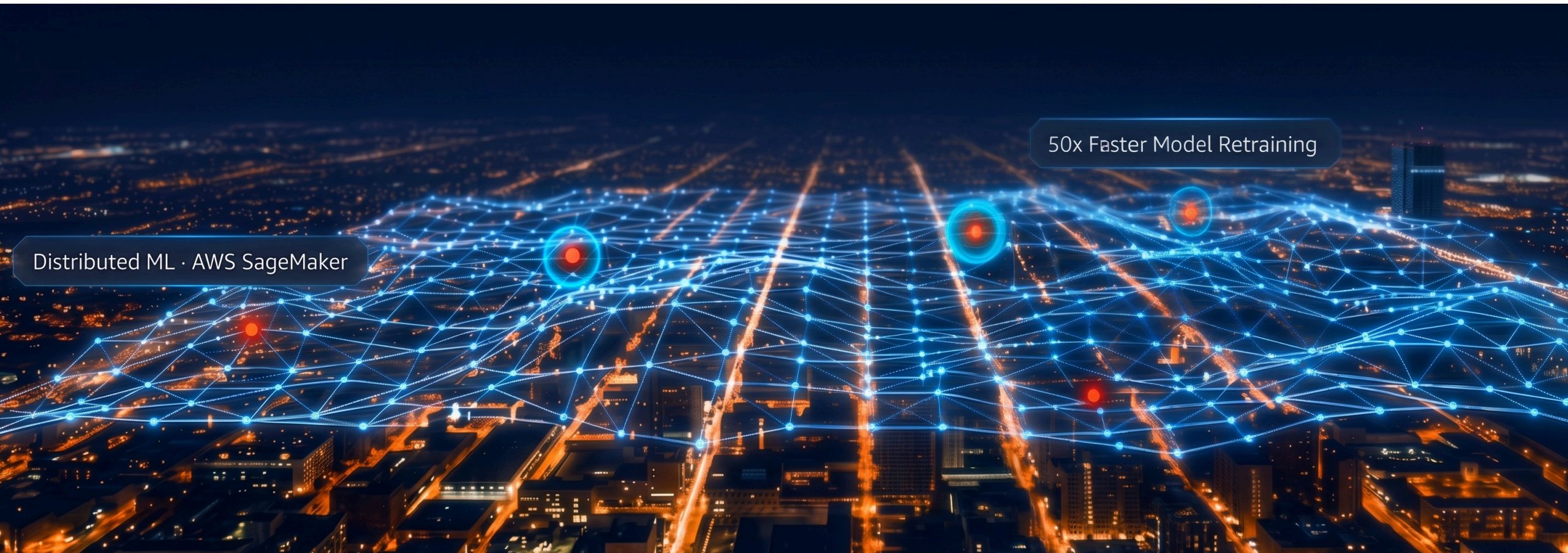


# Mitigating Malware Risks: 50x Faster Model Retraining via AWS SageMaker



## 50x Faster

Model retraining speed increase through parallel and distributed AWS SageMaker pipelines

## 99% Faster

Data processing efficiency improvement eliminating bottlenecks from massive deep-learning datasets

## 30% Better

Detection accuracy improvement maintaining a near-zero false-positive rate of 0.0001

### SERVICES

-  AI Solutions
-  Data Engineering
-  Platform Engineering

### TECHNOLOGY

-  Machine Learning Pipeline
-  AWS SageMaker
-  Smart Data Architecture
-  Predictive Analytics

# Mitigating Malware Risks: 50x Faster Model Retraining via AWS SageMaker

## THE CHALLENGE

A leading cybersecurity firm specializing in deep-learning malware detection faced a significant challenge as cyber threats escalated globally. Their detection models relied on enormous datasets, and the infrastructure required to process and retrain those models had become increasingly slow and inefficient — lengthening retraining cycles while threats evolved faster than defenses could adapt.

OCI optimized the firm's R&D workflows by implementing parallel and distributed processing pipelines using AWS SageMaker, restructuring the underlying data processing architecture to dramatically reduce computational bottlenecks.

Model retraining speeds increased 50x, data processing efficiency improved 99%, and detection accuracy improved by 30% — all while maintaining a near-zero false-positive rate of 0.0001.

## THE SHIFT

**BEFORE** Deep-learning malware detection models retrained slowly due to massive data processing demands, falling behind the pace of evolving threats.

**AFTER** Models retrain 50x faster with 30% improved detection accuracy, enabling defenses to keep pace with rapidly evolving cyber threats.

**BRIDGE** Distributed machine-learning pipelines implemented through AWS SageMaker with restructured parallel data processing architecture.

## WHAT WE BUILT

**FEATURES** Parallel and distributed model training pipelines built using AWS SageMaker for deep-learning malware detection at scale.

**ADVANTAGES** Eliminates bottlenecks associated with processing massive datasets, enabling continuous model improvement without infrastructure constraints.

**BENEFITS** 50x faster retraining, 99% greater processing efficiency, and 30% higher detection accuracy with a 0.0001 false-positive rate.



Engineered to **evolve.**

Three decades of mission-critical systems, engineered for performance and agility.

Let's Talk - [hello@objectcomputing.com](mailto:hello@objectcomputing.com)